

Participation of Stakeholders in Developing Occupational Class and Creating Product Value through Innovation to Strengthen the Grassroots Economy of Nam Phrae Subdistrict, Phrao District, Chiang Mai Province

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Abstract

This study aimed to (1) promote stakeholder participation in the development of occupational groups using the Community Business Model Canvas (CBMC) to generate income in Nam Phrae Subdistrict; (2) develop occupational groups and enhance product value through community-based innovation; and (3) strengthen the grassroots economy of Nam Phrae Subdistrict using the Bio Circular Green (BCG) Economy model. The sample consisted of 1,000 participants. The research instruments included (1) a structured questionnaire, with data analyzed using descriptive statistics and Structural Equation Modeling (SEM) through AMOS software, and (2) unstructured interviews, analyzed using content analysis.

The findings revealed that the community successfully fostered stakeholder participation in the development of occupational groups, particularly in operational planning through the collaborative development of three CBMC-based business plans: (1) jasmine rice porridge, (2) soybean milk, and (3) dried mango products. In terms of production, community members jointly processed these three products. Regarding marketing, the groups collaboratively calculated costs to determine pricing, identified distribution channels, and developed marketing promotion strategies. The products were distributed through Jing Jai Market and organic markets, and promoted via both online and on-site channels. Furthermore, the BCG Economy model was applied as a strategic framework to strengthen the grassroots economy. The analysis focused on five key variables: (1) participation, (2) occupational group development, (3) innovation,

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(4) product value creation, and (5) grassroots economic strength. Overall, the sample reported high levels of agreement across all five dimensions.

Keywords: Participation; Development; Value Creation; Innovation;
Grassroots Economy

Introduction

Strengthening the grassroots economy is a fundamental mechanism for promoting inclusive and sustainable local development because it enhances community self-reliance, income security, employment opportunities, and the capacity of local producers to create value from available resources. In Thailand, the Bio-Circular-Green (BCG) Economy has been promoted as a strategic development framework that integrates biological resources, circular resource use, and environmentally responsible production to increase economic value while maintaining social and environmental sustainability. The framework emphasizes collaboration among government agencies, the private sector, educational and research institutions, and local communities, thereby highlighting stakeholder participation as an essential condition for effective local economic development (Ministry of Higher Education, Science, Research and Innovation, 2021). In this context, strengthening occupational groups, developing community enterprises, and transforming local agricultural resources into higher-value products through innovation can enhance competitiveness and create sustainable income opportunities for rural communities.

Nam Phrae Subdistrict, Phrao District, Chiang Mai Province possesses diverse agricultural resources, local wisdom, and community-based occupational activities that provide considerable potential for local economic development. The local development strategy also emphasizes agricultural processing, community product development, market expansion, and the creation of supplementary occupations to increase household income (Nam Phrae Subdistrict Municipality, 2018). Nevertheless, the community continues to face several structural problems, including the migration of working-age residents, unemployment, limited employment opportunities, environmental degradation, and inadequate promotion of local resources and tourist attractions. These conditions constrain the ability of occupational groups to generate stable income and fully utilize local resources.

Consequently, community development requires more than conventional production support; it requires meaningful stakeholder participation, systematic occupational-group development, product value creation, and innovation that connects production, management, marketing, and sustainable resource use. The integration of the Community Business Model Canvas (CBMC) with the BCG Economy therefore provides a potentially appropriate mechanism for transforming local resources into marketable products while strengthening the community's economic resilience.

Based on these conditions, this study focuses on the participation of stakeholders in developing occupational groups and creating product value through community-based innovation as a pathway to strengthening the grassroots economy of Nam Phrae Subdistrict. The study seeks to connect stakeholder collaboration with practical business planning, innovation, value-added production, and sustainable resource management rather than examining these factors separately. Accordingly, three research questions are proposed: (1) How can stakeholder participation and the Community Business Model Canvas (CBMC) contribute to the development of occupational groups and income generation in Nam Phrae Subdistrict? (2) How can community-based innovation enhance occupational-group development and increase the value of local products? and (3) How can the Bio-Circular-Green (BCG) Economy model contribute to strengthening the grassroots economy of Nam Phrae Subdistrict in a sustainable manner? These questions are directly aligned with the study's three research objectives and provide a coherent framework for examining participation, innovation, value creation, and grassroots economic development.

Research Objectives

1. Establish stakeholders' participation in developing professional groups with the cbmc tool to create income in the nam phrae subdistrict community.
2. Develop occupational class and create product value through innovation of the nam phrae subdistrict community.
3. Strengthen the grassroots economy of the nam phrae subdistrict community using the bcg economic model.

Research Methodology

1. Research Design

This study employed a mixed-methods research design, integrating quantitative and qualitative approaches to examine stakeholder participation, occupational group development, innovation, product value creation, and grassroots economic strength in Nam Phrae Subdistrict, Phrao District, Chiang Mai Province. The research was conducted through four sequential phases: contextual analysis, stakeholder data collection, model development and implementation, and synthesis of the findings. The qualitative component included group discussions, in-depth interviews, and focus group discussions, while the quantitative component was used to examine relationships among the key constructs through Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM).

2. Population and Sample

The study population consisted of stakeholders involved in community economic and occupational development in Nam Phrae Subdistrict, including community occupational groups, government agencies, private sector representatives, and academic institutions. The study included 1,000 participants. However, the current manuscript does not clearly specify the sampling procedure or the numerical distribution of participants across stakeholder groups; these details should be added to strengthen methodological transparency.

3. Research Instruments

The research instruments consisted of (1) a structured questionnaire for quantitative data collection and (2) an unstructured interview guide for qualitative inquiry. Focus group discussions and workshops were also used to obtain contextual and implementation-related information. The questionnaire covered five major constructs: stakeholder participation, occupational group development, innovation, product value creation, and grassroots economic strength. Content validity was assessed using the Index of Item-Objective Congruence (IOC), and reliability testing was conducted to ensure consistency of the measurement instruments.

4. Data Collection

Data were collected from both primary and secondary sources. Secondary data included academic literature, policy documents, local development plans, and related research. Primary data were obtained through questionnaires, in-depth

interviews, focus group discussions, workshops, and stakeholder participation activities. The research process began with an analysis of the local context and community problems, followed by stakeholder consultation and the application of the Community Business Model Canvas (CBMC) and Bio-Circular-Green (BCG) Economy framework. The implementation included occupational skill development, role allocation, business planning, product processing, branding, marketing, and the development of value-added community products.

5. Data Analysis

Quantitative data were analyzed using frequency, percentage, mean, and standard deviation, together with inferential statistical analysis. Confirmatory Factor Analysis (CFA) was employed to assess construct validity, and Structural Equation Modeling (SEM) using AMOS was applied to test relationships among the study variables and evaluate model fit. Qualitative data from interviews, focus group discussions, workshops, and related documents were analyzed using content analysis, with findings interpreted and triangulated alongside the quantitative results to provide a comprehensive explanation of grassroots economic development.

Results

The findings were derived from questionnaires, interviews, focus group discussions, workshops, and relevant implementation reports concerning stakeholder participation in occupational group development, product value creation, and grassroots economic strengthening in Nam Phrae Subdistrict, Phrao District, Chiang Mai Province. A mixed-methods approach was employed, integrating quantitative and qualitative data to address the research objectives. The findings are presented as follows.

1. Operational Planning

Stakeholder participation in the development of community occupational groups was systematically facilitated through problem tree analysis. This participatory process enabled stakeholders to jointly identify, analyze, and prioritize key problems, while promoting knowledge exchange, critical reflection, shared awareness, and active involvement in problem solving. Group management was coordinated by community leaders who were responsible for financial administration, stakeholder coordination, and overall operations. This management structure supported the development of the occupational groups into learning

organizations through innovative market management and the application of the Community Business Model Canvas (CBMC).

The CBMC served as a strategic framework for business planning, income generation, and long-term sustainability. As a result, three community business plans were developed: (1) instant jasmine rice porridge, (2) soy milk, and (3) dried mango products. Stakeholder analysis was also used to strengthen collaborative mechanisms by assessing stakeholder significance and support, examining relationships and interaction patterns, defining expected roles according to institutional responsibilities, and establishing a core research team to coordinate voluntary collaboration among relevant stakeholders.

2. Product Processing

Stakeholders collaboratively increased the value of locally available agricultural products, including Jasmine Rice 105, soybeans, and mangoes, through systematic processing. This approach extended product shelf life, increased product diversity, improved consumer convenience, and expanded market opportunities. The production system was developed through several mechanisms, including shifting members' perspectives toward entrepreneurial production and community-based business, strengthening motivation and collective ownership through role allocation based on individual capacities, and establishing production calendars aligned with market demand.

In addition, standardized procurement criteria were introduced to ensure raw material quality, while production processes from cultivation to harvesting were managed to maintain consistency and quality. Product grading was conducted at the source before processing. Product diversification was further promoted to reduce market risks, enhance competitiveness, and create differentiated value-added products from local agricultural resources.

3. Marketing

Marketing strategies were jointly developed and implemented by stakeholders across four key areas: product, price, place, and promotion. Core products, including rice, soybeans, and vegetables, were distinguished from processed products, and target customer groups were identified for each product category. Pricing was determined through cost analysis to ensure appropriateness for both producers and consumers while allowing flexibility in response to market conditions and sales objectives.

CBMC-based business planning was further strengthened through capacity-building activities using the 5 elements, 9 blocks framework to support practical implementation within a one-year period. The “Dok Kham” brand was developed to enhance product identity, recognition, and traceability. Distribution channels were expanded through collaboration with civil society networks, local communities, and relevant organizations, including organic markets, Jing Jai Market, and community retail outlets. Promotional activities included participation in trade fairs, collaboration with network partners, structured stakeholder engagement, and the use of brochures and advertising materials to increase product visibility and market reach

Innovation-Driven Development of Occupational Groups and Product Value

The findings for Objective 2 indicate that community-based innovation played a significant role in strengthening occupational groups and enhancing product value in Nam Phrae Subdistrict. Innovation was applied to three key products instant jasmine rice porridge, soy milk, and dried mango and can be categorized into five interrelated dimensions.

First, collaborative network innovation was developed through partnerships among stakeholders, facilitating value co-creation, knowledge transfer, capacity building, and the diffusion of innovation across the community network. Second, service innovation emphasized customer-oriented practices, including direct delivery, after-sales services, transparent payment systems, product reviews, feedback mechanisms, customer satisfaction assessment, and product trials, thereby improving customer experience and market responsiveness. Third, channel innovation expanded both offline and online distribution and communication channels, increasing product accessibility, customer engagement, and market visibility. Fourth, branding innovation focused on creating a distinctive product identity and image to strengthen recognition, attractiveness, perceived value, and market positioning. Finally, process innovation improved production systems and resource utilization, enabling local agricultural materials to be transformed into higher-value, market-ready products.

Overall, these five dimensions demonstrate an integrated innovation approach that links stakeholder collaboration, market orientation, production improvement, and value creation. This integration contributed to the

competitiveness, sustainability, and long-term development of local occupational groups in Nam Phrae Subdistrict.



Figure 1 processed agricultural products

BCG Model and the Strengthening of the Grassroots Economy

The findings for Objective 3 indicate that the application of the Bio-Circular-Green (BCG) Economy model contributed to strengthening the grassroots economy of Nam Phrae Subdistrict through three interrelated dimensions: bioeconomy, circular economy, and green economy.

First, the bioeconomy (B) dimension focused on applying knowledge, technology, and innovation to increase the value of local agricultural resources. Rice, soybeans, and mangoes were processed into higher-value products, including instant jasmine rice porridge, soy milk, and dried mango, thereby enhancing their economic potential. Second, the circular economy (C) dimension emphasized efficient resource use and waste reduction. The community adopted a zero-waste approach by improving production processes and utilizing by-products; for example, broken rice with relatively low market value was transformed into instant porridge through collaboration between community members and researchers. Third, the green economy (G) dimension promoted environmentally sustainable production by replacing chemical inputs with bio-based pest-control agents and maintaining organic production standards. The resulting products were distributed through certified organic markets, thereby strengthening both environmental sustainability and market credibility.

The integration of these three dimensions enhanced the resilience and self-reliance of the community's grassroots economy. This development was further supported by key community economic mechanisms, including community organization, financial and capital management, information and production

systems, multi-level collaboration, social cohesion, ethical practices, shared ownership, and inclusive participation.

In addition to the qualitative findings, the measurement model assessing the relationships among Participation (Patic), Career Development (Carde), Innovation (Inno), Value Creation (Creva), and Community-Based Economic Strength (Cobes) demonstrated strong empirical validity. The goodness-of-fit indices indicated a high level of model adequacy ($\chi^2/df=1.250$, $p=.160$, $GFI=.996$, $CFI=.999$, $RMR=.009$, $RMSEA=.016$). These values meet established thresholds ($\chi^2/df < 3$, $p > .05$, GFI and $CFI > .95$, $RMR < .05$, $RMSEA < .08$), confirming that the measurement model is well aligned with the theoretical framework.

The results of the research hypothesis testing were analyzed by the researcher from statistics showing the relationship between the latent variables presented in Table 1.

Relationships between latent variables	Estimate	S.E.	C.R.	p-value Sig	Correlation
1. Patic ---> Carde	.846	.073	11.667	***	1.05
2. Patic ---> Inno	.302	.170	1.776	.076	.38
3. Patic ---> Creva	.173	.031	5.509	***	.41
4. Patic ---> Cobes	.752	.059	12.666	***	.77
5. Carde ---> Inno	.325	.209	1.555	.120	.33
6. Inno ---> Creva	.105	.036	2.895	.004	.20
7. Creva ---> Cobes	.874	.125	6.975	***	.38

Note: $p < .05$

Table 1 Covariance statistics and correlation coefficients

From Table 1, it is found that the variance of each pair is greater than zero at the statistically significant level of .05 (since the p-values are all less than .05), and they are positively valued. Ordering the relationships from strongest to weakest correlation based on the standardized regression coefficient, it is as follows: Participation significantly influences career development ($\beta=1.05$, $p < 0.05$). Participation significantly influences community-based economy strength ($\beta=.77$, $p < 0.05$). Creating value products significantly influences community-based economy strength ($\beta=.38$, $p < 0.05$). Creating value products significantly influences innovation ($\beta=.41$, $p < 0.05$). Career development significantly influences innovation ($\beta=.33$, p

<0.05). Innovation significantly influences creating value products ($\beta=.20$, $p < 0.05$). Participation insignificantly influences innovation ($\beta=.38$, $p < 0.05$). Therefore, the research hypotheses can be summarized as follows.

Hypothesis 1: From Table 3, the $p\text{-value}=P=***=0.000$, indicating that it is extremely close to zero and less than .05 (α). Thus, we reject H_0 and accept H_1 . Therefore, it can be concluded that participation significantly influences career development at the .05 significance level.

Hypothesis 2: From Table 3, the $p\text{-value}=P=.120$, which is greater than .05 (α). Thus, we reject H_1 and accept H_0 . Therefore, it can be concluded that participation does not significantly influence innovation at the .05 significance level. This is because innovation is often a personal ability to invent, create, or adapt without necessarily requiring direct participation.

Hypothesis 3: From Table 3, the $p\text{-value}=P=***=0.000$, indicating that it is extremely close to zero and less than .05 (α). Thus, we reject H_0 and accept H_1 . Therefore, it can be concluded that participation significantly influences creating value products at the .05 significance level.

Hypothesis 4: From Table 3, the $p\text{-value}=P=***=0.000$, indicating that it is extremely close to zero and less than .05 (α). Thus, we reject H_0 and accept H_1 . Therefore, it can be concluded that participation significantly influences community-based economy strength at the .05 significance level.

Hypothesis 5: From Table 3, the $p\text{-value}=P=.076$, which is greater than .05 (α). Thus, we reject H_1 and accept H_0 . Therefore, it can be concluded that career development does not significantly influence innovation at the .05 significance level. This is because career development involves building upon existing knowledge and learning from expert speakers, which does not directly influence innovation. However, innovation can be transferred to the workforce for adaptation and the creation of new products.

Hypothesis 6: From Table 3, the $p\text{-value}=P=.004$, indicating that it is extremely close to zero and less than .05 (α). Thus, we reject H_0 and accept H_1 . Therefore, it can be concluded that innovation significantly influences creating value products at the .05 significance level.

Hypothesis 7: From Table 3, the $p\text{-value}=P=***=0.000$, indicating that it is extremely close to zero and less than .05 (α). Thus, we reject H_0 and accept H_1 .

Therefore, it can be concluded that creating value products significantly influences community-based economy strength at the .05 significance level.

Therefore, it can be concluded that the model of measuring community-based economy strength conforms well to the theoretical model at an acceptable level. This conclusion is drawn from the analysis of exploratory factor analysis, confirmatory factor analysis, and structural equation modeling. In summary, it presents a model as depicted in Figure 2.

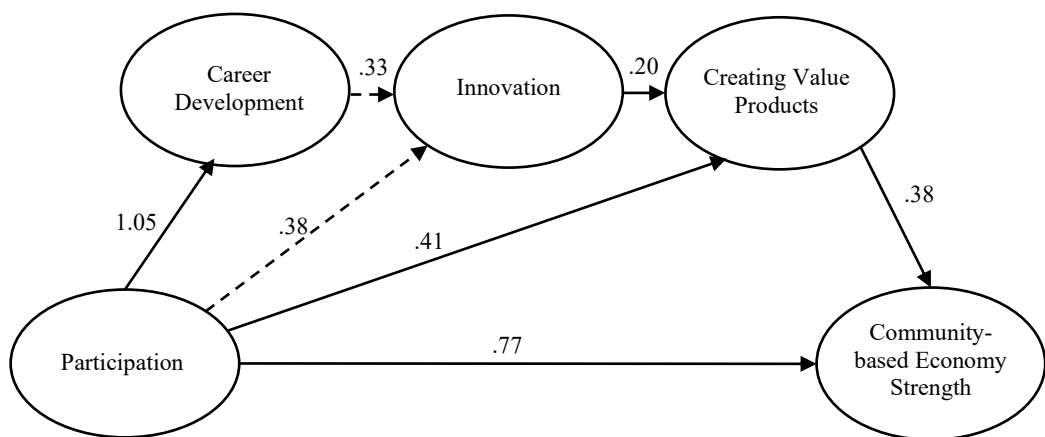


Figure 2 Summary of the results of the analysis of the model for strengthening the grassroots economy

Note: → means the variable has a statistically significant influence at the 0.05

From Figure 1, it is found that participation has a direct positive influence on the development of occupational groups and has the highest indirect influence on the strength of the community's grassroots economy at the 1.05 level, followed by participation having a positive direct influence. to product value creation and indirectly influences the strength of the community grassroots economy at the level of .41. Participation has a positive direct influence on the strength of the community grassroots economy at the level of .77. Participation has a positive direct influence. on innovation and has an indirect influence on the strength of the community grassroots economy at the level of .38. Creating product value has a positive direct influence on the strength of the community grassroots economy at the same level of .38. The development of occupational groups has a direct positive influence on Innovation at the level of .33 and innovation has a positive direct influence on product value creation at the level of .20, respectively.

Discussion

This study contributes to the literature by explaining how participation, occupational development, innovation, and value creation interact to strengthen the grassroots economy within a community-based framework. The integration of qualitative and quantitative findings provides a robust understanding of these relationships.

First, the results confirm that participation is the most critical driver of both occupational development ($\beta=1.05$, $p < .05$) and grassroots economic strength ($\beta=.77$, $p < .05$). This supports participatory development theory, which emphasizes stakeholder involvement in decision-making and implementation (Cohen & Uphoff, 1977), as well as the community economy concept that highlights self-reliance and collective learning. The findings further suggest that deep engagement through collaborative planning and shared responsibility is essential for sustainable economic development (Phusit Phukhamchanot, 2019).

Second, occupational development enhances community capacity but does not directly drive innovation. This indicates that while skill development strengthens internal capabilities, innovation requires additional factors such as creativity, knowledge integration, and external support (Chouhan & Srivastava, 2014).

Third, participation does not significantly influence innovation, suggesting that innovation is shaped more by specific competencies and external mechanisms than by participation alone. This aligns with the Diffusion of Innovations theory, which emphasizes knowledge transfer and adoption processes. However, innovation significantly contributes to product value creation ($\beta=.20$, $p < .05$), highlighting its indirect role in economic strengthening.

Fourth, product value creation serves as a key mediating variable, significantly influencing economic strength ($\beta=.38$, $p < .05$). This supports perceived value theory, where consumer decisions are based on quality, price, and benefits (Zeithaml, 1988). The development of value-added products demonstrates how local resources can be transformed into competitive market offerings, consistent with the creative economy approach.

Fifth, the integration of CBMC and the BCG Economy framework proves effective in strengthening grassroots economic systems. CBMC enhances business

planning and resource alignment, while BCG promotes sustainability and efficient resource use, consistent with global sustainable development strategies (Working Group on Grassroots Economy Development, 2016). **Finally**, the structural model shows strong goodness-of-fit ($\chi^2/df=1.250$, RMSEA=.016, CFI=.999), confirming the validity of the proposed framework. Participation exerts both direct and indirect effects on economic outcomes, primarily through occupational development and value creation.

New Knowledge

This study proposes an integrated model for strengthening the grassroots economy through stakeholder participation, occupational group development, innovation, product value creation, and the BCG Economy framework. The model demonstrates that stakeholder participation serves as the starting mechanism for strengthening occupational groups and community economic capacity, while innovation supports the transformation of local resources into higher-value products. Product value creation then connects innovation to stronger economic outcomes.

The model further integrates the Bio-Circular-Green (BCG) Economy by promoting value-added use of biological resources, efficient resource circulation, waste reduction, and environmentally responsible production. Accordingly, sustainable grassroots economic development emerges from the interaction of participation → occupational development → innovation → value creation → grassroots economic strength, supported by sustainable resource management under the BCG framework.

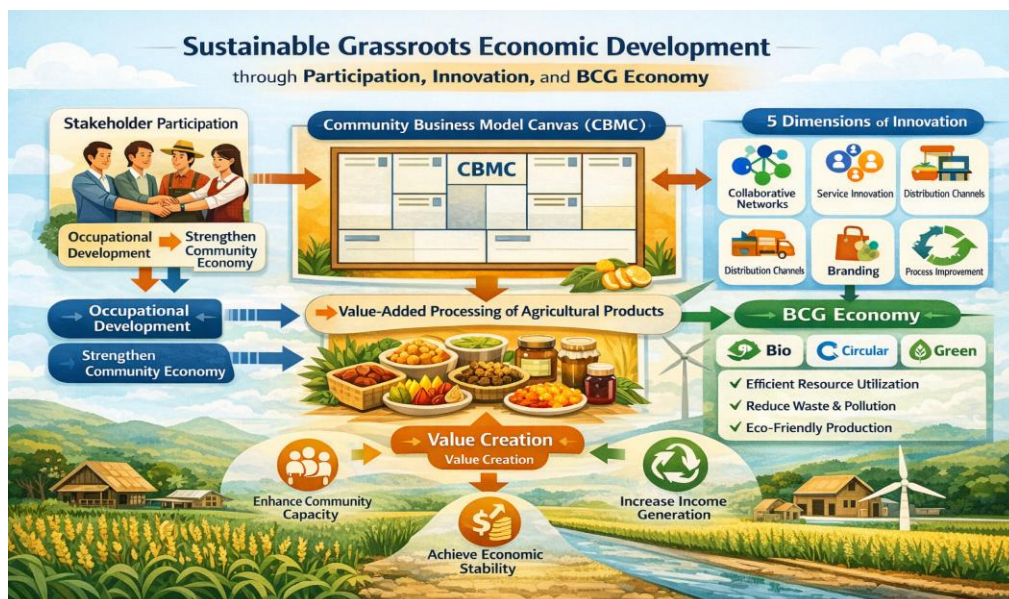


Figure 3 Sustainable Grassroots Economic Development through Participation, Innovation, and BCG Economy

Conclusion and Suggestion

The study concludes that stakeholder participation, supported by the Community Business Model Canvas (CBMC), strengthened occupational group development through collaborative planning, production, and marketing, resulting in three community business products: instant jasmine rice porridge, soy milk, and dried mango. Community-based innovation further enhanced product value through five dimensions: network, service, channel, branding, and process innovation. In addition, the Bio-Circular-Green (BCG) Economy model strengthened the grassroots economy by promoting value-added resource use, waste reduction, environmentally responsible production, and community self-reliance. Overall, sustainable grassroots economic development results from the integration of participation, occupational development, innovation, value creation, and BCG-based resource management.

1. Practical Recommendations

1.1 Local agencies and community organizations should apply CBMC and participatory planning tools to strengthen occupational-group management and business development.

1.2 Occupational groups should continuously develop innovation in networks, services, distribution channels, branding, and production processes to improve competitiveness.

1.3 Public, private, academic, and community sectors should strengthen collaboration in technology support, product development, market access, and sustainable BCG-based resource management.

2. Suggestions for Future Research

2.1 Comparative studies should be conducted across different communities to test the applicability of the proposed model in diverse contexts.

2.2 Longitudinal research should examine the sustainability of participation, innovation, value creation, and grassroots economic outcomes over time.

2.3 Future studies should include additional variables, such as digital transformation, entrepreneurial capability, and social capital, to strengthen the explanatory power of the model.

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